CLAIMS

What we claim is:

1. A method of immunizing a host against infection caused by a strain of *Chlamydia*, which comprises:

initially administering to the host an immunoeffective amount of an attenuated bacteria harbouring a nucleic acid molecule encoding at least one immunoprotection-inducing *Chlamydia* protein or a fragment thereof which generates a *Chlamydia* protein specific immune response, and

subsequently administering to the host an immunoeffective amount of at least one purified *Chlamydia* protein or a fragment thereof which generates a *Chlamydia* protein specific immune response, of the same at least one *Chlamydia* protein as the initial administration to achieve a *Chlamydia* specific protective immune response in the host.

2. The method of claim 1 wherein said immunoprotection inducing *Chlamydia* protein or fragment thereof is a major outer membrane protein (MOMP) of a strain of *Chlamydia*.

3. The method of claim 2 wherein said strain of *Chlamydia* is a strain of *Chlamydia pneumoniae*.

4. The method of claim 2 wherein said strain of *Chlamydia* is a strain of *Chlamydia trachomatis*.

5. The method of claim 1 wherein said nucleic acid molecule is provided in a vector comprising the same and a promoter sequence operatively coupled to said nucleic acid molecule for expression of said *Chlamydia* protein or fragment thereof in said host.

6. The method of claim 5 wherein said nucleic acid molecule encodes a full-length major outer membrane protein (MOMP) of a strain of *Chlamydia*.

7. The method of claim 6 wherein said strain of *Chlamydia* is a strain of *Chlamydia pneumoniae*.

8. The method of claim 6 wherein said strain of *Chlamydia* is a strain of *Chlamydia trachomatis*.

9. The method of claim 1 wherein said attenuated bacteria is an attenuated strain of *Salmonella*.

10. The method of claim 5 wherein said promoter is a cytomegalovirus promoter.

11. The method of claim 5 wherein said vector is a plasmid vector.

12. The method of claim 11 wherein said plasmid vector has the identifying characteristics of pcDNA3/MOMP as seen in Figure 5.

13. The method of claim 1 wherein said immunoprotection-inducing chlamydial protein used in said subsequent administration step is administered incorporated into an immunostimulating complex (ISCOM).

14. The method of claim 13 wherein said chlamydial protein or fragment thereof is a major outer membrane protein (MOMP) of a strain of *Chlamydia*.

15. The method of claim 14 wherein said strain of *Chlamydia* is a strain of *Chlamydia pneumoniae*.

16. The method of claim 14 wherein said strain of *Chlamydia* is a strain of *Chlamydia trachomatis*.

17. The method of claim 1 wherein said first administration step is effected to mucosal surfaces.

18. The method of claim 17 wherein said first administration step is effected by intranasal administration and said second administration step is effected by intramuscular administration.

19. An attenuated strain of a bacterium harbouring a nucleic acid molecule encoding at least one immunoprotection-inducing *Chlamydia* protein or a fragment thereof which generates a *Chlamydia* protein specific immune response.

20. The attenuated strain of claim 19 wherein said immunoprotection inducing *Chlamydia* protein or fragment thereof is a major outer membrane protein (MOMP) of a strain of *Chlamydia*.

21. The attenuated strain of claim 20 wherein said strain of *Chlamydia* is a strain of *Chlamydia pneumoniae*.

22. The attenuated strain of claim 20 wherein said strain of *Chlamydia* is a strain of *Chlamydia trachomatis*.

23. The attenuated strain of claim 19 wherein said nucleic acid molecule is provided in a vector comprising the same and a promoter sequence operatively

coupled to said nucleic acid molecule for expression of said *Chlamydia* protein or fragment thereof in said host.

24. The attenuated strain of claim 23 wherein said promoter is a cytomegalovirus promoter.

25. The attenuated strain of claim 23 wherein said vector is a plasmid vector.

26. The attenuated strain of claim 25 wherein said plasmid vector has the identifying characteristics of pcDNA3/MOMP as seen in Figure 5.

27. The attenuated strain of claim 19 wherein said attenuated bacteria is an attenuated strain of *Salmonella*.

28. The attenuated strain of claim 27 wherein said attenuated strain of *Salmonella* is an attenuated strain of *Salmonella typhimurium*.

29. A method of immunizing a host against infection caused by a strain of *Chlamydia*, which comprises:

administering to the host an immunoeffective amount of an attenuated bacteria harbouring a nucleic acid molecule encoding at least one immunoprotection-inducing *Chlamydia* protein or a fragment thereof which generates a *Chlamydia* protein specific immune response.

30. The method of claim 29 wherein said immunoprotection inducing *Chlamydia* protein or fragment thereof is a major outer membrane protein (MOMP) of a strain of *Chlamydia*.

31. The method of claim 30 wherein said strain of *Chlamydia* is a strain of *Chlamydia pneumoniae*.

32. The method of claim 30 wherein said strain of *Chlamydia* is a strain of *Chlamydia trachomatis*.

33. The method of claim 29 wherein said nucleic acid molecule is provided in a vector comprising the same and a promoter sequence operatively coupled to said nucleic acid molecule for expression of said *Chlamydia* protein or fragment thereof in said host.

34. The method of claim 33 wherein said promoter is a cytomegalovirus promoter.

35. The method of claim 33 wherein said vector is a plasmid vector.

36. The method of claim 35 wherein said plasmid vector has the identifying characteristics of pcDNA3/MOMP as seen in Figure 5.

37. The method of claim 29 wherein said attenuated bacteria is an attenuated strain of *Salmonella*.

38. The method of claim 37 wherein said attenuated strain of *Salmonella* is an attenuated strain of *Salmonella typhimurium*.

39. The method of claim 29 wherein said administration is effected to mucosal surfaces.

40. The method of claim 39 wherein said administration is effected by intranasal administration.